

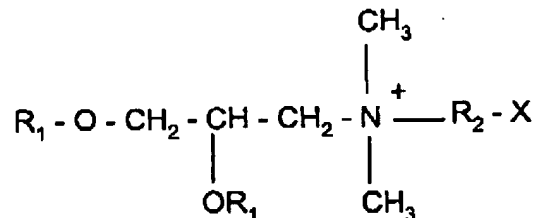
PATENT
574313-3154.1
USSN 09/760,574

AMENDMENTS TO THE CLAIMS

Please amend the claims without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents, as follows.

1-83. (Cancelled)

84. (Previously presented) A DNA vaccine against a bovine pathogen, wherein the bovine pathogen is BRSV, BVDV-1, BVDV-2 or bPI-3, comprising at least one plasmid that contains and expresses in a bovine host cell a nucleotide sequence encoding an immunogen of the bovine pathogen, and a cationic lipid containing a quaternary ammonium salt, of the formula



in which R₁ is a saturated or unsaturated linear aliphatic radical having 12 to 18 carbon atoms, R₂ is an aliphatic radical containing 2 or 3 carbon atoms, and X a hydroxyl or amine group.

85. (Previously presented) The vaccine according to claim 84, further comprising DOPE.

86. (Previously presented) The vaccine according to claim 84, further comprising bovine GM-CSF.

87. (Previously presented) The vaccine according to claim 85, further comprising bovine GM-CSF.

88. (Previously presented) The vaccine according to claim 84, further comprising an expression vector that contains and expresses in a bovine host cell a nucleotide sequence encoding bovine GM-CSF.

89. (Previously presented) The vaccine according to claim 85, further comprising an expression vector that contains and expresses in a bovine host cell a nucleotide sequence encoding bovine GM-CSF.

90. (Previously presented) The vaccine according to claim 88, wherein the expression vector is a plasmid.

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91. (Previously presented) The vaccine according to claim 89, wherein the expression vector is a plasmid.

92. (Previously presented) The vaccine according to claim 84, wherein the nucleotide sequence encoding the immunogen of the bovine pathogen has deleted therefrom a portion encoding a transmembrane domain.

93. (Previously presented) The vaccine according to claim 84, wherein the plasmid further contains and expresses in a bovine host cell a nucleotide sequence encoding a heterologous tPA signal sequence.

94. (Previously presented) The vaccine according to claim 84, wherein the plasmid further contains a stabilizing intron.

95. (Previously presented) The vaccine according to claim 94, wherein the intron is intron II of a rabbit beta-globin gene.

96. (Previously presented) The vaccine according to claim 84, wherein the bovine pathogen is bovine respiratory syncytial virus (BRSV).

97. (Previously presented) The vaccine according to claim 96, wherein the immunogen is BRSV F, modified by substitution of the BRSV F signal sequence with a human tPA signal sequence, and/or by deletion of the transmembrane domain.

98. (Previously presented) The vaccine according to claim 96, the immunogen is BRSV G, modified by substitution of the BRSV G signal sequence with a human tPA signal sequence, and/or by deletion of the transmembrane domain.

99. (Previously presented) The vaccine according to claim 85 comprising a first plasmid that contains and expresses in a bovine host cell a nucleotide sequence encoding bovine respiratory syncytial virus (BRSV) F, modified by substitution of the BRSV F signal sequence with a human tPA signal sequence and deletion of the transmembrane domain and contiguous C-terminal portion; and a second plasmid that contains and expresses in a bovine host cell a nucleotide sequence encoding BRSV G, modified by substitution of the BRSV G signal sequence with a human tPA signal sequence and deletion of the transmembrane domain and contiguous C-terminal portion; and wherein the lipid is DMRIE, whereby the vaccine comprises DMRIE-DOPE.

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100. (Previously presented) The vaccine according to claim 92, further comprising DOPE.

101. (Previously presented) The vaccine according to claim 92, further comprising bovine GM-CSF.

102. (Previously presented) The vaccine according to claim 92, further comprising an expression vector that contains and expresses in a bovine host cell a nucleotide sequence encoding bovine GM-CSF.

103. (Previously presented) The vaccine according to claim 102, wherein the expression vector is a plasmid.

104. (Previously presented) The vaccine according to claim 93, further comprising DOPE.

105. (Previously presented) The vaccine according to claim 93, further comprising bovine GM-CSF.

106. (Previously presented) The vaccine according to claim 93, further comprising an expression vector that contains and expresses in a bovine host cell a nucleotide sequence encoding bovine GM-CSF.

107. (Previously presented) The vaccine according to claim 106, wherein the expression vector is a plasmid.

108. (Previously presented) The vaccine according to claim 94, further comprising DOPE.

109. (Previously presented) The vaccine according to claim 94, further comprising bovine GM-CSF.

110. (Previously presented) The vaccine according to claim 94, further comprising an expression vector that contains and expresses in a bovine host cell a nucleotide sequence encoding bovine GM-CSF.

111. (Previously presented) The vaccine according to claim 110, wherein the expression vector is a plasmid.

112. (Previously presented) The vaccine according to claim 96, further comprising DOPE.

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113. (Previously presented) The vaccine according to claim 96, further comprising bovine GM-CSF.
114. (Previously presented) The vaccine according to claim 96, further comprising an expression vector that contains and expresses in a bovine host cell a nucleotide sequence encoding bovine GM-CSF.
115. (Previously presented) The vaccine according to claim 114, wherein the expression vector is a plasmid.
116. (Previously presented) The vaccine of claim 96 wherein the immunogen is BRSV F.
117. (Previously presented) The vaccine of claim 96 wherein the immunogen is BRSV G.
118. (Currently Amended) The vaccine according to claim 84 or 85 wherein the lipid is DMRIE.
- 119-220. (Cancelled)